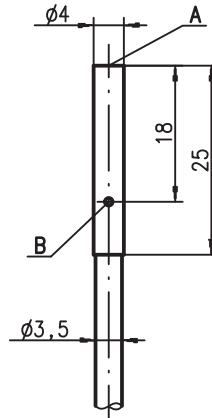


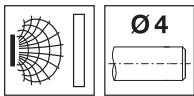
en 01-2010/05 50113509



Dimensioned drawing



- A** Active surface
- B** Yellow indicator diode



1,5mm



Embedded

- Slim and short cylindrical metal housing Ø 4mm
- Stainless steel housing
- Built-in short circuit protection, inductive protection and polarity reversal protection
- LED for switching state

Electrical connection

Cable

10-30V DC +	br/BN
GND	bl/BU
OUT	sw/BK



Accessories:

(available separately)

We reserve the right to make changes • DS_IS204MP_en.fm

Specifications

General specifications

Type of installation	IS 204...-1E5
Typ. operating range limit S_n	embedded installation
Operating range S_a	1.5mm 0 ... 1.2mm

Electrical data

Operating voltage U_B 1)	10 ... 30VDC
Residual ripple σ	$\leq 20\%$ of U_B
Output current I_L	$\leq 200\text{mA}$
Open-circuit current I_0	$\leq 10\text{mA}$
Residual current I_r	$\leq 100\mu\text{A}$
Switching output/function	.../4NO... PNP transistor, make-contact (NO) .../4NC... PNP transistor, break-contact (NC) .../2NO... NPN transistor, make-contact (NO) .../2NC... NPN transistor, break-contact (NC)

Voltage drop U_d	$\leq 2\text{V}$
Hysteresis H of S_r	$\leq 10\%$
Temperature drift of S_r	$\leq 10\%$ 2)
Repeatability	$\leq 2\%$ 3)

Timing

Switching frequency f	3kHz
Delay before start-up	$\leq 10\text{ms}$

Indicators

Yellow LED	switching state
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Mechanical data

Housing	stainless steel
Standard surface plate	4.5 x 4.5mm ² , Fe360
Active surface	PA66
Weight (M8 plug/cable)	approx. 32g
Connection type	cable: 2m, PVC, 3 x 0.14mm ² , \varnothing 3.5mm

Environmental data

Ambient temperature	-25°C ... +70°C
Protection class	IP 67
Protective circuit 4)	1, 2, 3
Standards applied	IEC/EN 60947-5-2
Electromagnetic compatibility	IEC 60255-5 IEC 61000-4-2 IEC 61000-4-3 IEC 61000-4-4
	1kV Level 2 air 4kV (ESD) Level 3 10V/m (RFI) Level 3 2kV (Burst)

- 1) Observe the safety regulations and installation instructions regarding power supply and wiring.
- 2) Over the entire operating temperature range
- 3) For $U_B = 20 \dots 30\text{VDC}$, ambient temperature $T_a = 23^\circ\text{C} \pm 5^\circ\text{C}$
- 4) 1=polarity reversal protection, 2=short circuit protection, 3=inductive protection for all outputs

Order guide

The sensors listed here are preferred types; current information at www.leuze.com.

$S_n = 1.5\text{mm}$	Designation	Part No.
	IS 204 MP/4NO-1E5	50113478

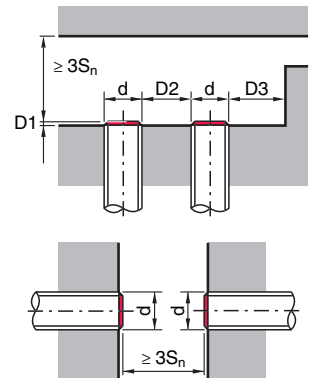
Tables

Reduction factors:
for $S_n = 1.5\text{mm}$

Steel Fe360	1
Copper	0.40
Aluminum	0.40
Brass	0.50
Stainless steel	0.75

Mounting

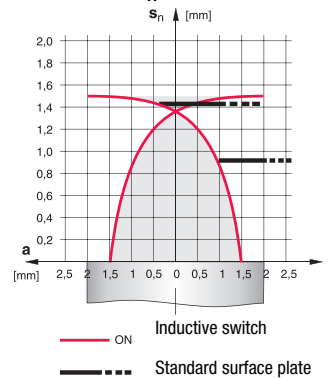
Embedded installation:



Ferromagnetic and non-ferromagnetic materials			
S_n [mm]	D1 [mm]	D2 [mm]	D3 [mm]
1.5	0	1.0	1.5

Diagrams

Models with $s_n = 1.5\text{mm}$



Type key

I	S	2	0	4	M	P	/	4	N	O	-	1	E	5					
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Operating principle / construction

IS Inductive switch / Standard

Series

204 Series with Ø 4 mm

Housing / thread

MP Metal housing (active surface: plastic) / smooth (without thread)

Output function

4NO PNP transistor, make-contact (NO)

4NC PNP transistor, break-contact (NC)

2NO NPN transistor, make-contact (NO)

2NC NPN transistor, break-contact (NC)

Measurement range / type of installation

1E5 Typ. scan range limit 1.5 mm / embedded installation

Electrical connection

N/A Cable, PVC, standard length 2000mm

Remarks

● **Approved purpose:**

The inductive switches are electronic sensors for the inductive, contactless detection of objects.

This product may only be used by qualified personnel and must only be used for the approved purpose. This sensor is not a safety sensor and is not to be used for the protection of persons.

